



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs  
Registration Division (7505P)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

EPA Reg. Number:

7969-364

Date of Issuance:

5/13/15

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
(under FIFRA, as amended)

Term of Issuance:

Conditional

Name of Pesticide Product:

Fastac CS Insecticide

Name and Address of Registrant (include ZIP Code):

David W. Haughey  
BASF Corporation  
26 Davis Drive  
Research Triangle Park, NC 27709

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA section 3(c)(7)(A). You must comply with the following conditions:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product under FIFRA when the Agency requires all registrants of similar products to submit such data.

Signature of Approving Official:

Kable Bo Davis, Product Manager 3  
Invertebrate and Vertebrate Branch 1 (IVB1)  
Registration Division (7505P)  
Office of Pesticide Programs

Date:

5/13/15

2. You are required to comply with the data requirements described in the DCI identified below:
  - a. Alpha-cypermethrin GDCI-209600-1329

You must comply with all of the data requirements within the established deadlines. If you have questions about the Generic DCI listed above, you may contact the Chemical Review Manager in the Pesticide Reevaluation Division: [http://www.epa.gov/oppsrrd1/contacts\\_prd.htm](http://www.epa.gov/oppsrrd1/contacts_prd.htm)

3. Make the following label changes before you release the product for shipment:
  - Revise the EPA Registration Number to read, “EPA Reg. No. 7969-364.”
4. Submit one copy of the final printed label for the record before you release the product for shipment.

Should you wish to add/retain a reference to the company’s website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance.

If you fail to satisfy these data requirements, EPA will consider appropriate regulatory action including, among other things, cancellation under FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 04/28/2014
- Alternate CSF 1 dated 04/28/2014
- Alternate CSF 2 dated 06/05/2014
- Alternate CSF 3 dated 06/05/2014
- Alternate CSF 4 dated 06/05/2014
- Alternate CSF 5 dated 06/05/2014

If you have any questions, you may contact Elizabeth Fertich at 703-347-8560 or via email at [fertich.elizabeth@epa.gov](mailto:fertich.elizabeth@epa.gov).

# RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms

For retail sale to and use only by certified applicators, or persons under their direct supervision and only for those uses covered by the certified applicator's certification.

Group **3A** Insecticide



We create chemistry

# Fastac<sup>TM</sup> CS

## Insecticide

### Microencapsulated product

#### Active Ingredient\*:

**alpha-cypermethrin:** mixture of

(S)- $\alpha$ -cyano-3-phenoxybenzyl (1R,3R)-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate  
and

(R)- $\alpha$ -cyano-3-phenoxybenzyl (1S,3S)-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate . . . . . 9.88%

**Other Ingredients\*\*:** . . . . . 90.12%

**Total:** . . . . . 100.00%

\* Contains 0.83 pound active ingredients per gallon

\*\* Contains petroleum distillate

EPA Reg. No. 7969-xxx

EPA Est. No.

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION/PRECAUCION**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See inside for complete **First Aid, Precautionary Statements, Directions For Use, Conditions of Sale and Warranty**, and state-specific crop and/or use site restrictions.

**In case of an emergency endangering life or property involving this product, call day or night 1-800-832-HELP (4357).**

**Net Contents:**

BASF Corporation  
26 Davis Drive, Research Triangle Park, NC 27709

**ACCEPTED**

05/13/2015

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under

EPA Reg. No. 7969-364

| <b>FIRST AID</b>   |   |
|--|---|
| <b>If on skin or clothing</b>  | <ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>• Call a poison control center or doctor.</li> </ul>   |
| <b>If inhaled</b>  | <ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth to mouth, if possible.</li> <li>• Immediately call a poison control center or doctor.</li> </ul>   |
| <b>If swallowed</b>  | <ul style="list-style-type: none"> <li>• Call a poison control center or doctor.</li> <li>• <b>DO NOT</b> induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• <b>DO NOT</b> give any liquid to the person.</li> <li>• <b>DO NOT</b> give anything by mouth to an unconscious person.</li> </ul> |
| <b>If in eyes</b>  | <ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes; then continue rinsing.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>                              |
| <b>HOTLINE NUMBER</b>  |   |
| Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact BASF Corporation for emergency medical treatment information: 1-800-832-HELP (4357). |   |
| <b>Note to Physician:</b> May pose an aspiration pneumonia hazard. Contains petroleum distillate.  |   |

## Precautionary Statements

### Hazards To Humans And Domestic Animals

**CAUTION.** Harmful is absorbed through skin. Harmful if inhaled. Harmful if swallowed. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

### Personal Protective Equipment (PPE)

#### Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material (such as barrier laminate, butyl rubber, nitrile rubber, and/or viton)
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

### Engineering Controls

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

## USER SAFETY RECOMMENDATIONS

#### Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### Environmental Hazards

This pesticide is extremely toxic to fish and aquatic invertebrates, oysters, and shrimp. **DO NOT** apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. **DO NOT** apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. **DO NOT** contaminate water when disposing of equipment washwater or rinsate.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. **DO NOT** apply this product or allow it to drift to blooming crops if bees are visiting the treatment area.

## Directions For Use

### RESTRICTED USE PESTICIDE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. This labeling must be in possession of the user at time of product application.

**DO NOT** apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Observe all precautions and limitations in this label and the labels of products used in combination with **Fastac™ CS insecticide**. The use of **Fastac CS** not consistent with this label can result in injury to crops, animals, or persons. Keep containers closed to avoid spills and contamination.

### Resistance

Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state agricultural authorities for details.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for your area.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

**DO NOT** enter or allow worker entry into treated areas during the restricted-entry interval (REI) of **12 hours**.

For early entry into treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated such as plants, soil, or water, wear:

- Coveralls
- Chemical-resistant gloves (made of any waterproof material)
- Shoes plus socks

## STORAGE AND DISPOSAL

### Pesticide Storage

Store in a cool, dry, well-ventilated place. **DO NOT** store below 0° C (32° F). **DO NOT** use near heat, open flame or hot surfaces. Store in original containers only. Carefully open containers. After partial use, replace lids and close tightly. **DO NOT** put concentrate or dilute material into food or drink containers. **DO NOT** contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

Keep out of reach of children and animals.

### Pesticide Disposal

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your state Pesticide or Environmental Control Agency or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

### Container Handling

**Nonrefillable Container. DO NOT** reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

### Triple rinse containers small enough to shake

**(capacity ≤ 5 gallons) as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

### Triple rinse containers too large to shake

**(capacity > 5 gallons) as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Repeat this procedure two more times.

**Pressure rinse as follows:** Empty the remaining contents into application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank, or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

(continued)

## STORAGE AND DISPOSAL *(continued)*

### Container Handling *(continued)*

**Refillable container.** Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Triple rinsing the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

**Triple rinse as follows:** To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

When this container is empty, replace the cap and seal all openings that have been opened during use; return the container to the point of purchase or to a designated location. This container must only be refilled with a pesticide product. **DO NOT** reuse the container for any other purpose. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transport. **DO NOT** transport if this container is damaged or leaking. If the container is damaged, or leaking, or obsolete and not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling, if available, or dispose of container in compliance with state and local regulations.

### In Case of Emergency

In case of large-scale spill of this product, call:

- CHEMTREC 1-800-424-9300
- BASF Corporation 1-800-832-HELP (4357)

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- BASF Corporation 1-800-832-HELP (4357)

### Steps to take if material is released or spilled:

- Dike and contain the spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal.
- Remove contaminated clothing, and wash affected skin areas with soap and water.
- Wash clothing before reuse.
- Keep the spill out of all sewers and open bodies of water.

### Chemigation Use Directions

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. **DO NOT** apply this product through any other type of irrigation system. **DO NOT** connect any irrigation system (including greenhouse systems) used for pesticide application to a public water system.

Crop injury, lack of effectiveness, or illegal residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers, or other experts. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

The system must contain a functional check valve, vacuum-relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water-source contamination from backflow.

The pesticide injection pipeline must also contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Apply **Fastac™ CS insecticide** continuously for the duration of the water application. Dilute **Fastac CS** in sufficient volume to ensure accurate application over the area to be treated. Use the appropriate amount of water to carry the product to the target pest. Agitation is not required when a suitable diluent is used.

### Vegetative Filter Strips

Construct and maintain a minimum 10-foot-wide vegetative filter strip of grass or other permanent vegetation between the field edge and down gradient aquatic habitat (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish farm ponds).

Only apply products containing alpha-cypermethrin onto fields where a maintained vegetative buffer strip of at least 10 feet exists between the field and down gradient aquatic habitat.

For guidance, refer to the following publication for information on constructing and maintaining effective buffers: *Conservation Buffers to Reduce Pesticide Losses*.

Natural Resources Conservation Services.  
USDA, NRCS. 2000. Fort Worth, Texas. 21pp.  
<http://www.in.nrcs.usda.gov/technical/agronomy/newconbuf.pdf>.

## Spray Buffers

### Ground Application

#### (groundboom, overhead chemigation, or airblast)

**DO NOT** apply within 25 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

### Aerial Application

- **Ultra-low volume (ULV) - DO NOT** apply within 450 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).
- **Non-ULV - DO NOT** apply within 150 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

## Spray Drift Requirements

### Wind Direction and Speed

Only apply this product if the wind direction favors on-target deposition. **DO NOT** apply when the wind velocity exceeds 15 mph.

### Temperature Inversion

**DO NOT** make aerial or ground application into temperature inversions. Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

### Droplet Size

Use only medium or coarser spray nozzles (for ground and non-ULV aerial application) according to ASAE (S572) definition for standard nozzles. In conditions of low humidity and high temperatures, applicators should use a coarser droplet size.

## Additional Requirements for Ground Application

- Wind speed must be adjacent to the application site on the upwind side immediately before application.
- For ground boom applications, apply using a nozzle height of no more than 4 feet above the ground or crop canopy.
- For airblast applications, turn off outward-pointing nozzles at row ends and when spraying the outer two rows. To minimize spray loss over the top in orchard applications, spray must be directed into the canopy.

## Additional Requirements for Aerial Application

- The spray boom should be mounted on the aircraft as to minimize drift caused by wing tip or rotor vortices. The minimum practical boom length should be used and must not exceed 75% of the wing span or 80% of rotor blade diameter.
- Flight speed and nozzle orientation must be considered in determining droplet size.
- Spray must be released at the lowest height consistent with pest control and flight safety. **DO NOT** release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety.
- When applications are made with a crosswind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.

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## Use Information

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**DO NOT** use any products containing cypermethrin and zeta-cypermethrin during a crop season when using this product.

Use low rate under light-to-moderate infestation. Higher rates should be used under heavy insect pressure. The rate of application is variable according to insect pressure, timing of spray and field scouting. **DO NOT** exceed maximum allowable rate.

### Preventive Use

For cutworm, armyworm, or stalk borer control, **Fastac™ CS insecticide** may be applied before, during, or after planting. For soil-incorporated applications, use higher rates for improved control.

### Rotational Crops

With the exception of the following listed crops, rotational crops should not be planted within 30 days of last application.

### Tank Mixture

**DO NOT** tank mix this product with any product containing the active ingredients (ai) cypermethrin or zeta-cypermethrin.

**Fastac CS** can be tank mixed with other crop protection products approved for use on the crops described in this label. Observe all restrictions and precautions which appear on the labels of these products. Test for compatibility of products before mixing.

### Restrictions and Limitations

- **Maximum Seasonal Use Rate** - 11.4 fl ozs/Acre (0.075 lb ai)
- **DO NOT** use any products containing cypermethrin and zeta-cypermethrin during a crop season when using this product.
- Refer to **Table 2** for complete directions and exceptions.

**Table 1. Fastac™ CS insecticide Crop-specific Maximum Seasonal Use and Preharvest Interval**

| Crop  | Maximum Seasonal Total/Acre |          | Preharvest Interval<br>(PHI) (days)  |
|---|-----------------------------|----------|--|
|   | (lb ai)                     | (fl ozs) |  |
| Alfalfa   | 0.075                       | 11.4     | 3 (cutting or grazing)<br>7 (harvesting seed)  |
| Brassica leafy vegetables   | 0.075                       | 11.4     | 1  |
| Citrus fruits   | 0.075                       | 11.4     | 1  |
| Corn, field<br>Corn, pop<br>Corn, seed  | 0.075                       | 11.4     | 30 (grain and stover)<br>60 (forage)   |
| Corn, sweet   | 0.075                       | 11.4     | 3  |
| Cotton  | 0.075                       | 11.4     | 14   |
| Cucurbits   | 0.075                       | 11.4     | 1  |
| Fruiting vegetables   | 0.075                       | 11.4     | 1  |
| Leafy vegetables  | 0.075                       | 11.4     | 1  |
| Legume vegetables   | 0.075                       | 11.4     | 1 (succulent shelled or edible-podded peas or beans)<br>21 (dried shelled peas or beans) |
| Root and tuber vegetables<br>(except sugar beet)  | 0.075                       | 11.4     | 1  |
| Sorghum<br>(and other cereals)  | 0.075                       | 11.4     | 14 (grain and stover)<br>45 (forage)   |
| Soybeans  | 0.075                       | 11.4     | 21   |
| Sugar beets   | 0.075                       | 11.4     | 50   |
| Tree nuts   | 0.075                       | 11.4     | 7  |
| Wheat   | 0.075                       | 11.4     | 14   |
| <p>Refer to <b>Table 2. Crop-specific Application Instructions</b> for detailed information on application timing and any use restrictions.</p> <p><b>DO NOT</b> use any products containing cypermethrin and zeta-cypermethrin during a crop season when using this product.</p> |                             |          |  |

**Table 2. Crop-specific Application Instructions**

| Crop   | Insects Controlled   | Application Rate/Acre                         | Application Method  |
|--|--|---|---|
| <b>Alfalfa</b>   | Alfalfa caterpillar<br>Alfalfa looper<br>Alfalfa weevil<br>Aphid spp. <sup>1</sup><br>Cutworm<br>Egyptian alfalfa weevil (larvae and adult)<br>Flea beetle<br>Green cloverworm<br>Hornworm<br>Meadow spittlebug<br>Potato leafhopper<br>Three-cornered alfalfa hopper<br>Velvetbean caterpillar<br>Webworm | 2.2 to 3.8 fl ozs<br>(0.014 to 0.025 lb ai)   | Apply as insects appear; use sufficient volume of water to ensure thorough coverage of foliage.<br><br>Use higher specified rate for increased pest pressure or for increased residual pest control.<br><br><b>Minimum Spray Volume/Acre</b><br>• <b>Aerial</b> - 2 gallons<br>• <b>Ground</b> - 10 gallons<br><br>ULV oil spray application is prohibited. |
|  | Armyworm<br>Grasshopper<br>Plant bugs (including Lygus spp. and stink bug)   | 2.8 to 3.8 fl ozs<br>(0.0175 to 0.0250 lb ai) | Higher volumes of finished spray may improve insect control under high temperatures, when foliage is dense, and/or when insect pressure is high.  |
| <ul style="list-style-type: none"> <li>• <b>Maximum Application Rate/Acre</b> - 3.8 fl ozs of <b>Fastac™ CS insecticide</b> (0.025 lb ai) per cutting</li> <li>• <b>Maximum Seasonal Application Rate/Acre</b> - 11.4 fl ozs of <b>Fastac CS</b> (0.075 lb ai)</li> <li>• <b>Minimum Application Interval</b> - 7 days</li> <li>• <b>Preharvest Interval (PHI)</b> - 3 days (cutting or grazing)<br/>7 days (harvesting seed)</li> </ul> <p><sup>1</sup>Aphid control may be variable depending on species present and host-plant relationships.</p> |  |   |   |

**Table 2. Crop-specific Application Instructions** (continued)

| Crop  | Insects Controlled  | Application Rate/Acre   | Application Method   |
|---|---|---|--|
| <p><b>Brassica Leafy Vegetables</b></p> <p><b>Head and Stem including:</b></p> <ul style="list-style-type: none"> <li>Broccoli</li> <li>Brussels sprouts</li> <li>Cabbage</li> <li>Cauliflower</li> <li>Cavalo broccolo</li> <li>Chinese broccoli (gai lon, white flowering broccoli)</li> <li>Chinese cabbage (Napa)</li> <li>Chinese mustard cabbage (gai choy)</li> <li>Kohlrabi</li> </ul> <p><b>Leafy Brassica Greens including:</b></p> <ul style="list-style-type: none"> <li>Broccoli raab (rapini)</li> <li>Chinese cabbage (bok choy)</li> <li>Collards</li> <li>Kale</li> <li>Mizuna</li> <li>Mustard greens</li> <li>Mustard spinach</li> <li>Rape greens</li> <li>Turnip greens</li> </ul> | <p>Corn earworm<br/>Cucumber beetle<br/>Cutworm<br/>Diamondback moth<sup>1</sup><br/>Flea beetle<br/>Imported cabbageworm<br/>Leafhopper<br/>Saltmarsh caterpillar<br/>Southern cabbageworm<br/>Tobacco budworm<sup>1</sup></p> <hr/> <p>Alfalfa looper<br/>Aphid<sup>2</sup><br/>Armyworm<br/>Cabbage looper<br/>Cabbage webworm<br/>Cricket<br/>Grasshopper<br/>Ground beetle<br/>Leafminer (adult)<br/>Lygus bug<br/>Onion thrips<br/>Stinkbug<br/>Whitefly<sup>3</sup><br/>Wireworm (adult)</p> | <p>2.2 to 3.8 fl ozs<br/>(0.014 to 0.025 lb ai)</p> <hr/> <p>3.2 to 3.8 fl ozs<br/>(0.020 to 0.025 lb ai)</p> | <p>Use sufficient volume of water to ensure thorough coverage of foliage.</p> <p><b>Minimum Spray Volume/Acre</b></p> <ul style="list-style-type: none"> <li>• <b>Aerial</b> - 5 gallons</li> <li>• <b>Ground</b> - 15 gallons</li> </ul> <p>Use lower rates of <b>Fastac™ CS insecticide</b> under light-to-moderate insect pressure. Use higher rates to control heavy to extremely heavy insect populations.</p> <p>In areas where arid climatic conditions persist, such as California and Arizona, higher than minimum specified rates may be required.</p> |
| <ul style="list-style-type: none"> <li>• <b>Maximum Application Rate/Acre</b> - 3.8 fl ozs of <b>Fastac CS</b> (0.025 lb ai)</li> <li>• <b>Maximum Seasonal Application Rate/Acre</b> - 11.4 fl ozs of <b>Fastac CS</b> (0.075 lb ai)</li> <li>• <b>Minimum Application Interval</b> - 7 days</li> <li>• <b>PHI</b> - 1 day</li> </ul> <p><sup>1</sup> See <b>Resistance</b> in <b>Directions For Use</b> section.<br/> <sup>2</sup> Aphid control may be variable depending on species present and host-plant relationships.<br/> <sup>3</sup> Aids in control</p>   |   |   |  |

**Table 2. Crop-specific Application Instructions** (continued)

| Crop   | Insects Controlled  | Application Rate/Acre       | Application Method   |
|--|---|-----------------------------|--|
| <b>Citrus Fruits Group</b><br>Calamondin<br>Citrus citron<br>Citrus hybrids<br>(includes chironja,<br>tangelo, tangor)<br>Grapefruit<br>Kumquat<br>Lemon<br>Lime<br>Mandarin (tangerine)<br>Orange, sour<br>Orange, sweet<br>Pummelo<br>Satsuma mandarin   | Asian cockroach<br>Beet armyworm<br>Blue-green citrus root weevil<br>Cutworm<br>Diaprepes root weevil<br>Fire ant<br>Fuller rose beetle<br>Glassy-winged sharpshooter<br>Grasshopper<br>Katydid<br>Leafhopper<br>Leafminer*<br>Leafroller<br>Little leaf notcher<br>Looper <sup>1</sup><br>Orange tortrix<br>Orangedog caterpillar<br>Plant bugs<br>Psyllid<br>Thrips<br>Whitefly | 3.8 fl ozs<br>(0.025 lb ai) | Use sufficient water to ensure thorough coverage of foliage.<br><br><b>Minimum Spray Volume/Acre</b><br>• <b>Aerial</b> - 10 gallons<br>• <b>Ground</b> - 20 gallons<br><br>Begin application when pest activity is noted. |
| <ul style="list-style-type: none"> <li>• <b>Maximum Application Rate/Acre</b> - 3.8 fl ozs of <b>Fastac™ CS insecticide</b> (0.025 lb ai)</li> <li>• <b>Maximum Seasonal Application Rate/Acre</b> - 11.4 fl ozs of <b>Fastac CS</b> (0.075 lb ai)</li> <li>• <b>Minimum Application Interval</b> - 14 days</li> <li>• <b>PHI</b> - 1 day</li> </ul> <p>* For adult control only<br/> <sup>1</sup> Looper control may be variable depending on species present and host-plant relationships.</p> |   |                             |  |

**Table 2. Crop-specific Application Instructions** *(continued)*

| Crop  | Insects Controlled | Application Rate   | Application Method  |       |       |
|---|--------------------|--|---|-------|-------|
| <b>At-plant Use:</b><br><b>Corn (Field)</b><br><b>Field Corn</b><br><b>Grown for Seed</b><br><b>Popcorn</b>   | Cutworm            | 0.15 fl oz<br>(0.001 lb ai)<br>per 1000 linear feet of row | Apply as an infurrow, band, or T-band treatment using a minimum 4-inch band. Use table below to determine the <b>Fastac™ CS insecticide</b> application per acre. |       |       |
| Row Spacing (inches)  |                    |  | 40  | 30    | 20    |
| <b>Fastac CS</b> (lb ai/acre)   |                    |  | 0.012   | 0.017 | 0.025 |
| <b>Fastac CS</b> (formulated fl ozs/acre)   |                    |  | 1.8   | 2.6   | 3.8   |
| <ul style="list-style-type: none"> <li>• <b>Maximum Application Rate/Acre</b> - 3.8 fl ozs of <b>Fastac CS</b> (0.025 lb ai)</li> <li>• <b>Maximum Seasonal Application Rate/Acre</b> - 11.4 fl ozs of <b>Fastac CS</b> (0.075 lb ai), including at planting plus foliar applications of <b>Fastac CS</b>.</li> <li>• <b>PHI</b> - 30 days (grain and stover)<br/>60 days (forage)</li> </ul> |                    |  |   |       |       |

**Table 2. Crop-specific Application Instructions** (continued)

| Crop  | Insects Controlled   | Application Rate/Acre                       | Application Method  |
|---|--|---|---|
| <b>Corn (Field)<br/>Field Corn<br/>Grown for Seed<br/>Popcorn</b>   | Cutworm  | 1.3 to 2.8 fl ozs<br>(0.008 to 0.018 lb ai) | Make applications when insect populations reach economic thresholds. Refer to local Cooperative Extension Pest Management Guidelines and/or scouting results.   |
|   | Corn earworm <sup>1</sup><br>Green cloverworm<br>Meadow spittlebug<br>Western bean cutworm <sup>1</sup>  | 1.8 to 3.8 fl ozs<br>(0.011 to 0.025 lb ai) |   |
|   | Aphid <sup>3</sup><br>Bean leaf beetle<br>Cereal leaf beetle<br>Corn borer, European<br>Corn borer, Southwestern<br>Corn rootworm beetle<br>Flea beetle<br>Grasshopper<br>Hop vine borer<br>Hornworm<br>Japanese beetle (adult)<br>Sap beetle (adult)<br>Southern corn leaf beetle<br>Stalk borer<br>Stink bug spp.<br>Tobacco budworm <sup>2</sup><br>Webworm | 2.7 to 3.8 fl ozs<br>(0.017 to 0.025 lb ai) | Use sufficient water to ensure thorough coverage of foliage.<br><br><b>Minimum Spray Volume/Acre</b><br>• <b>Aerial</b> - 2 gallons<br>• <b>Ground</b> - 10 gallons<br><br><b>Chinch bug control:</b><br>Scout corn fields and make applications when bugs migrate from small grains or wild grasses to small corn. Direct spray to base of plant. Repeat applications at 3-day to 5-day intervals if needed.<br><b>Fastac™ CS insecticide</b> may only suppress heavy infestations and/or subsequent migrations. |
|   | Armyworm<br>(including fall armyworm)<br>Chinch bug  | 3.2 to 3.8 fl ozs<br>(0.020 to 0.025 lb ai) |   |
| <ul style="list-style-type: none"> <li>• <b>Maximum Application Rate/Acre</b> - 3.8 fl ozs of <b>Fastac CS</b> (0.025 lb ai)</li> <li>• <b>Maximum Seasonal Application Rate/Acre</b> - 11.4 fl ozs of <b>Fastac CS</b> (0.075 lb ai), including at planting plus foliar applications of <b>Fastac CS</b>.</li> <li>• <b>Minimum Application Interval</b> - 3 days</li> <li>• <b>PHI</b> - 30 days (grain and stover)<br/>60 days (forage)</li> </ul> |  |   |   |
| <p><sup>1</sup>For control before the larva bores into the plant stalk or ear<br/> <sup>2</sup>See <b>Resistance</b> in <b>Directions For Use</b> section.<br/> <sup>3</sup>Aphid control may be variable depending on species present and host-plant relationships.</p>  |  |   |   |

**Table 2. Crop-specific Application Instructions** (continued)

| Crop   | Insects Controlled  | Application Rate/Acre                       | Application Method   |
|--|---|---|--|
| Corn, Sweet  | Chinch bug<br>Corn rootworm (adult)<br>Corn silkfly<br>Cutworm<br>Flea beetle<br>Japanese beetle (adult)<br>Leafhopper<br>Sap beetle (adult)<br>Tarnished plant bug | 2.2 to 3.8 fl ozs<br>(0.014 to 0.025 lb ai) | Use sufficient water to ensure thorough coverage of foliage.<br><br><b>Minimum Spray Volume/Acre</b><br>• <b>Aerial</b> - 2 gallons<br>• <b>Ground</b> - 20 gallons<br><br>Apply at 3-day to 5-day intervals or as needed for control. |
|  | Aphid <sup>1</sup><br>Armyworm<br>Corn borer<br>Corn earworm<br>Grasshopper   | 2.8 to 3.8 fl ozs<br>(0.018 to 0.025 lb ai) |  |
| <ul style="list-style-type: none"> <li>• <b>Maximum Application Rate/Acre</b> - 3.8 fl ozs of <b>Fastac™ CS insecticide</b> (0.025 lb ai)</li> <li>• <b>Maximum Seasonal Application Rate/Acre</b> - 11.4 fl ozs of <b>Fastac CS</b> (0.075 lb ai)</li> <li>• <b>Minimum Application Interval</b> - 3 days</li> <li>• <b>PHI</b> - 3 days (harvest of ears or forage, or livestock grazing)</li> </ul> <p><sup>1</sup>Aphid control may be variable depending on species present and host-plant relationships.</p> |   |   |  |

| Crop   | Insects Controlled | Application Rate/Acre                       | Application Method  |
|--|--------------------|---|---|
| Preemergence Use:<br>Cotton  | Cutworm            | 1.3 to 1.9 fl ozs<br>(0.008 to 0.012 lb ai) | Use <b>Fastac CS</b> in the time period from 14 days before planting up to emergence of the crop. Apply as a broadcast spray by ground or air, banded (including T-band), or infurrow spray using sufficient spray volume to achieve adequate coverage. Reduced volume of water may be used with specialized equipment. Use the higher rate of <b>Fastac CS</b> when incorporating into the soil. |
| <ul style="list-style-type: none"> <li>• <b>Maximum Application Rate/Acre</b> - 1.9 fl ozs of <b>Fastac CS</b> (0.012 lb ai)</li> <li>• <b>Maximum Seasonal Application Rate/Acre</b> - 11.4 fl ozs of <b>Fastac CS</b> (0.075 lb ai), including preemergence plus foliar applications of <b>Fastac CS</b>.</li> <li>• <b>Application Timing</b> - 14 days before planting up to crop emergence</li> <li>• <b>DO NOT</b> graze or feed cotton for forage.</li> </ul> |                    |   |   |

**Table 2. Crop-specific Application Instructions** *(continued)*

| Crop          | Insects Controlled  | Application Rate/Acre                       | Application Method  |
|---------------|---|---|---|
| <b>Cotton</b> | Cutworm<br>Soybean (banded) thrips<br>Tobacco thrips  | 1.3 to 1.9 fl ozs<br>(0.008 to 0.012 lb ai) | <b>Fastac™ CS insecticide</b> may be applied in water or refined vegetable oil.   |
|               | Armyworm, fall<br>Armyworm, yellow-striped<br>Boll weevil<br>Cabbage looper<br>Corn borer, European<br>Cotton bollworm<br>Cotton fleahopper<br>Cotton leaf perforator<br>Pink bollworm<br>Saltmarsh caterpillar<br>Stink bug<br>Tarnished plant bug<br>(other plant bugs)<br>Tobacco budworm <sup>1</sup> | 2.6 to 3.6 fl ozs<br>(0.017 to 0.023 lb ai) | <b>Minimum Spray Volume/Acre</b><br>• <b>Aerial</b> - 1 gallon. A minimum of 1 quart of emulsifiable oil may be substituted for 1 quart of water.<br>• <b>Ground</b> - 5 gallons. A minimum of 1 quart of emulsifiable oil may be substituted for 1 quart of water.<br><b>Lepidopteran egg control:</b> May be achieved with proper timing of applications. |
|               | Aphid spp. <sup>2</sup><br>Armyworm, beet <sup>3</sup><br>Lygus bug<br>Whitefly <sup>4</sup>  | 2.8 to 3.8 fl ozs<br>(0.018 to 0.025 lb ai) | <b>Boll weevil control:</b> Apply <b>Fastac CS</b> at 3-day to 4-day intervals until pest numbers are reduced to acceptable levels.   |
|               | Grasshopper   | 3.0 to 3.8 fl ozs<br>(0.019 to 0.025 lb ai) |   |

*(continued)*

**Table 2. Crop-specific Application Instructions** (continued)

| Crop  | Insects Controlled   | Application Rate/Acre                       | Application Method   |
|---|--|---|--|
| <b>Cotton</b><br>(continued)  | Cutworm<br>Soybean (banded) thrips<br>Tobacco thrips   | 1.3 to 1.9 fl ozs<br>(0.008 to 0.012 lb ai) | <b>Grasshopper control:</b><br>Applications should be made based on careful field scouting. Make treatment decisions based on evidence of feeding damage and presence of grasshoppers in cotton. Loss of cotyledon leaves in seedling cotton should be considered more important than leaf loss in older cotton. Applications should be made on a broadcast basis because grasshoppers are highly mobile.<br><br>Adjust rates based on populations of grasshoppers found in fields. Make applications on a 3-day to 5-day schedule until grasshopper populations are under control or until foliage loss subsides.<br><br>Increase application rates as grasshopper size and population density increases. |
|   | Armyworm, fall<br>Armyworm, yellow-striped<br>Boll weevil<br>Cabbage looper<br>Corn borer, European<br>Cotton bollworm<br>Cotton fleahopper<br>Cotton leaf perforator<br>Pink bollworm<br>Saltmarsh caterpillar<br>Stink bug<br>Tarnished plant bug (other plant bugs)<br>Tobacco budworm <sup>1</sup> | 2.6 to 3.6 fl ozs<br>(0.017 to 0.023 lb ai) |  |
|   | Aphid spp. <sup>2</sup><br>Armyworm, beet <sup>3</sup><br>Lygus bug<br>Whitefly <sup>4</sup>   | 2.8 to 3.8 fl ozs<br>(0.018 to 0.025 lb ai) |  |
|   | Grasshopper  | 3.0 to 3.8 fl ozs<br>(0.019 to 0.025 lb ai) |  |
| <ul style="list-style-type: none"> <li>• <b>Maximum Application Rate/Acre</b> - 3.8 fl ozs of <b>Fastac™ CS insecticide</b> (0.025 lb ai)</li> <li>• <b>Maximum Seasonal Application Rate/Acre</b> - 11.4 fl ozs of <b>Fastac CS</b> (0.075 lb ai), including preemergence plus foliar applications of <b>Fastac CS</b>.</li> <li>• <b>Minimum Application Interval</b> - 3 days</li> <li>• <b>PHI</b> - 14 days</li> <li>• <b>DO NOT</b> graze or feed cotton for forage.</li> </ul> <p><sup>1</sup> See <b>Resistance</b> in <b>Directions For Use</b> section.<br/> <sup>2</sup> Aphid control may be variable depending on species present and host-plant relationships.<br/> <sup>3</sup> For control of beet armyworm only in the high plains of Texas, Arizona, and California<br/> <sup>4</sup> Aids in control</p> |  |   |  |

**Table 2. Crop-specific Application Instructions** (continued)

| Crop  | Insects Controlled  | Application Rate/Acre                       | Application Method  |
|---|---|---|---|
| <p><b>Cucurbit Vegetables Group</b><br/> <b>Includes all types and hybrids of:</b><br/>                     Chayote (fruit)<br/>                     Chinese waxgourd (Chinese preserving melon)<br/>                     Citron melon<br/>                     Cucumber<br/>                     Gherkin<br/>                     Pumpkin<br/>                     Watermelon</p> <p><b>Edible Gourd</b><br/>                     Chinese okra<br/>                     Cucuzza<br/>                     Hechima<br/>                     Hyotan</p>   | Cutworm spp.  | 1.4 to 3.8 fl ozs<br>(0.016 to 0.025 lb ai) | Apply as required by scouting. Base timing and frequency of applications on insect populations reaching locally determined economic threshold levels.       |
| <p><b>Momordica spp.</b><br/>                     Balsam apple<br/>                     Balsam pear<br/>                     Bitter melon<br/>                     Chinese cucumber</p> <p><b>Muskmelon</b><br/>                     Cantaloupe<br/>                     Casaba<br/>                     Crenshaw melon<br/>                     Golden pershaw melon<br/>                     Honeydew melon<br/>                     Honey balls<br/>                     Mango melon<br/>                     Persian melon<br/>                     Pineapple melon<br/>                     Santa Claus melon<br/>                     Snake melon<br/>                     True cantaloupe</p> <p><b>Summer Squash</b><br/>                     Crookneck squash<br/>                     Scallop squash<br/>                     Straightneck squash<br/>                     Vegetable marrow<br/>                     Zucchini</p> <p><b>Winter Squash</b><br/>                     Acorn squash<br/>                     Butternut squash<br/>                     Calabaza<br/>                     Hubbard squash<br/>                     Spaghetti squash</p> | Cabbage looper<br>Cucumber beetle spp. (adult)<br>Leafhopper spp.<br>Melonworm<br>Pickleworm<br>Rindworm<br>Squash bug<br>Squash vine borer | 3.0 to 3.8 fl ozs<br>(0.019 to 0.025 lb ai) | Use sufficient water to ensure thorough coverage of foliage.  |
|   | Aphid spp. <sup>1,2,3</sup><br>Armyworm, beet <sup>1,3</sup><br>Corn earworm<br>Leafminer <sup>3</sup><br>Plant bug spp.<br>Stinkbug spp.   | 3.2 to 3.8 fl ozs<br>(0.020 to 0.025 lb ai) | <p><b>Minimum Spray Volume/Acre</b></p> <ul style="list-style-type: none"> <li>• <b>Aerial</b> - 2 gallons</li> <li>• <b>Ground</b> - 10 gallons</li> </ul> |

- **Maximum Application Rate/Acre** - 3.8 fl ozs of **Fastac™ CS insecticide** (0.025 lb ai)
- **Maximum Seasonal Application Rate/Acre** - 11.4 fl ozs of **Fastac CS** (0.075 lb ai)
- **Minimum Application Interval** - 7 days
- **PHI** - 1 day

<sup>1</sup> See **Resistance** in **Directions For Use** section.

<sup>2</sup> Aphid control may be variable depending on species present and host-plant relationships.

<sup>3</sup> Aids in control

**Table 2. Crop-specific Application Instructions** (continued)

| Crop   | Insects Controlled   | Application Rate/Acre                               | Application Method   |
|--|--|---|--|
| <p><b>Fruiting Vegetables Group (except Cucurbits)</b></p> <p>Eggplant<br/>Groundcherry<br/>Okra<br/>Pepino (melon pear)<br/>Pepper<br/>(includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper)<br/>Tomatillo<br/>Tomato</p>   | <p>Armyworm, Southern<br/>Armyworm, true<br/>Armyworm, yellow-striped<br/>Celery leaf tier<br/>Colorado potato beetle<br/>Corn borer, European<br/>Corn borer, Southwestern<br/>Corn earworm<br/>Cucumber beetle<br/>Cutworm spp.<br/>Flea beetle<br/>Garden webworm<br/>Green stink bug<br/>Hornworm<br/>Leafhopper spp.<br/>Leafminer (adult)<br/>Meadow spittlebug<br/>Pepper maggot (adult)<br/>Pepper weevil<br/>Plant bug spp.<br/>Tobacco budworm<sup>2</sup><br/>Tomato fruitworm<br/>Tomato pinworm</p> | <p>2.2 to 3.8 fl ozs<br/>(0.014 to 0.025 lb ai)</p> | <p>Apply as required by scouting. Base timing and frequency of applications on insect populations reaching locally determined economic thresholds.</p> <p>Use sufficient water to ensure thorough coverage of foliage.</p> <p><b>Minimum Spray Volume/Acre</b></p> <ul style="list-style-type: none"> <li>• <b>Aerial</b> - 2 gallons</li> <li>• <b>Ground</b> - 10 gallons</li> </ul> |
|  | <p>Aphid spp.<sup>2,3</sup><br/>Armyworm, beet<sup>2</sup><br/>Armyworm, fall<br/>Brown stink bug<br/>Cabbage looper<br/>Grasshopper<br/>Lygus bug<br/>Thrips spp.<sup>1,2</sup><br/>Tomato psyllid<br/>Whitefly spp.<sup>1,2</sup></p>  | <p>3.2 to 3.8 fl ozs<br/>(0.020 to 0.025 lb ai)</p> |  |
| <p>• <b>Maximum Application Rate/Acre</b> - 3.8 fl ozs of <b>Fastac™ CS insecticide</b> (0.025 lb ai)</p> <p>• <b>Maximum Seasonal Application Rate/Acre</b> - 11.4 fl ozs of <b>Fastac CS</b> (0.075 lb ai)</p> <p>• <b>Minimum Application Interval</b> - 7 days</p> <p>• <b>PHI</b> - 1 day</p> <p><sup>1</sup>Aids in control<br/><sup>2</sup>See <b>Resistance</b> in <b>Directions For Use</b> section.<br/><sup>3</sup>Aphid control may be variable depending on species present and host-plant relationships.</p> |  |   |  |

**Table 2. Crop-specific Application Instructions** (continued)

| Crop   | Insects Controlled   | Application Rate/Acre                       | Application Method   |
|--|--|---|--|
| <b>Leafy Vegetables (except Brassica Vegetables) Group</b><br><br>Amaranth<br>(leafy amaranth, Chinese spinach, tampala)<br>Arugula (roquette)<br>Cardoon<br>Celery<br>Celery, Chinese<br>Celtuce<br>Chervil<br>Chrysanthemum (edible-leaved, garland)<br>Corn salad<br>Cress, garden<br>Cress, upland (yellow rocket, winter cress)<br>Dandelion<br>Dock (sorrel)<br>Endive (escarole)<br>Fennel, Florence (finocchio)<br>Lettuce (head, leaf)<br>Orach<br>Parsley<br>Purslane (garden, winter)<br>Radicchio (red chicory)<br>Rhubarb<br>Spinach (New Zealand, vine [Malabar, Indian])<br>Swiss chard | Corn earworm<br>Cucumber beetle<br>Cutworm<br>Diamondback moth<br>Flea beetle<br>Imported cabbageworm<br>Leafhopper<br>Saltmarsh caterpillar<br>Tobacco budworm <sup>2</sup><br>Whitefly spp. <sup>1,2</sup> | 2.2 to 3.8 fl ozs<br>(0.014 to 0.025 lb ai) | Use sufficient water to ensure thorough coverage of foliage.<br><br><b>Minimum Spray Volume/Acre</b><br>• <b>Aerial</b> - 5 gallons<br>• <b>Ground</b> - 10 gallons<br><br>Use lower rates of <b>Fastac™ CS insecticide</b> under light-to-moderate insect pressure. Use higher rates to control heavy to extremely heavy insect populations.<br><br>In areas where arid climatic conditions persist, such as California and Arizona, higher than minimum specified rates may be required. |
|  | Aphid spp. <sup>2,3</sup><br>Armyworm<br>Cricket<br>Ground beetle<br>Looper<br>Lygus bug<br>Onion thrips<br>Stink bug<br>Wireworm (adult)  | 3.2 to 3.8 fl ozs<br>(0.020 to 0.025 lb ai) |  |

- **Maximum Application Rate/Acre** - 3.8 fl ozs of **Fastac CS** (0.025 lb ai)
- **Maximum Seasonal Application Rate/Acre** - 11.4 fl ozs of **Fastac CS** (0.075 lb ai)
- **Minimum Application Interval** - 7 days
- **PHI** - 1 day

<sup>1</sup>Aids in control

<sup>2</sup>See **Resistance** in **Directions For Use** section.

<sup>3</sup>Aphid control may be variable depending on species present and host-plant relationships.

**Table 2. Crop-specific Application Instructions** (continued)

| Crop   | Insects Controlled  | Application Rate/Acre                       | Application Method  |
|--|---|---|---|
| <b>Legume Vegetables, Succulent or Dried (except Dried Soybeans)</b>   | Cutworm spp.<br>Saltmarsh caterpillar<br>Silverspotted skipper<br>Thistle caterpillar (painted lady)  | 1.3 to 3.8 fl ozs<br>(0.008 to 0.025 lb ai) | Apply as required by scouting, usually at intervals of 5 or more days. Base timing and frequency of applications on insect populations reaching locally determined economic thresholds. |
| Adzuki bean<br>Asparagus bean<br>Blackeyed pea<br>Broad bean (fava bean)<br>Catjang<br>Chickpea (garbanzo bean)<br>Chinese longbean<br>Cowpea<br>Crowder pea<br>Dwarf pea<br>Edible-podded pea<br>English pea<br>Field bean<br>Field pea<br>Garden pea<br>Grain lupin<br>Green pea<br>Guar<br>Jackbean<br>Kidney bean<br>Lablab bean<br>Lentil<br>Lima bean<br>Moth bean<br>Mung bean<br>Navy bean<br>Pigeon pea<br>Pinto bean<br>Rice bean<br>Runner bean<br>Snap bean<br>Snow pea<br>Southern pea<br>Soybean (immature seed)<br>Sugar snap pea | Alfalfa caterpillar<br>Armyworm, Southern<br>Armyworm, true<br>Armyworm, yellow-striped<br>Bean leaf beetle<br>Blister beetle spp.<br>Colorado potato beetle<br>Corn borer, European<br>Corn borer, Southwestern<br>Corn earworm<br>Corn rootworm beetle (adult)<br>Cowpea curculio<br>Cucumber beetle<br>Flea beetle<br>Green cloverworm<br>Ground beetle<br>Imported cabbageworm<br>Japanese beetle<br>Leafhopper spp.<br>Leafminer (adult)<br>Leaf skeletonizer spp.<br>Mexican bean beetle<br>Pea leaf weevil<br>Pea weevil<br>Plant bug spp.<br>Potato leafhopper<br>Seedcorn beetle<br>Seedcorn maggot (adult)<br>Spittlebug<br>Three-cornered alfalfa hopper<br>Tobacco budworm <sup>2</sup><br>Velvetbean caterpillar<br>Webworm spp.<br>Woollybear caterpillar | 2.7 to 3.8 fl ozs<br>(0.017 to 0.025 lb ai) | Use sufficient water to ensure thorough coverage of foliage.<br><br><b>Minimum Spray Volume/Acre</b><br>• <b>Aerial</b> - 2 gallons<br>• <b>Ground</b> - 10 gallons                     |
| Sweet lupin<br>Swordbean<br>Tepary bean<br>Urd bean<br>Wax bean<br>White lupin<br>White sweet lupin<br>Yardlong bean   | Aphid spp. <sup>2,3</sup><br>Armyworm, beet <sup>2</sup><br>Armyworm, fall<br>Grasshopper<br>Lesser cornstalk borer <sup>1</sup><br>Looper spp. <sup>2</sup><br>Stink bug spp.<br>Thrips spp. <sup>1,2</sup><br>Whitefly spp. <sup>1,2</sup>  | 3.2 to 3.8 fl ozs<br>(0.020 to 0.025 lb ai) |   |
| <ul style="list-style-type: none"> <li>• <b>Maximum Application Rate/Acre</b> - 3.8 fl ozs of <b>Fastac™ CS insecticide</b> (0.025 lb ai)</li> <li>• <b>Maximum Seasonal Application Rate/Acre</b> - 11.4 fl ozs of <b>Fastac CS</b> (0.075 lb ai)</li> <li>• <b>Minimum Application Interval</b> - 5 days</li> <li>• <b>PHI</b> - 1 day (succulent shelled or edible-podded peas or beans)<br/>21 days (dried shelled peas or beans)</li> </ul>   |   |   |   |
| <p><sup>1</sup> Aids in control<br/> <sup>2</sup> See <b>Resistance</b> in <b>Directions For Use</b> section.<br/> <sup>3</sup> Aphid control may be variable depending on species present and host-plant relationships.</p>   |   |   |   |

**Table 2. Crop-specific Application Instructions** (continued)

| Crop  | Insects Controlled  | Application Rate/Acre                       | Application Method   |
|---|---|---|--|
| <b>Root and Tuber Vegetables Group (except Sugar Beet)</b><br>Arracacha<br>Arrowroot<br>Artichoke (Chinese and Jerusalem)<br>Black salsify<br>Carrot<br>Cassava (bitter and sweet)<br>Celeriac (celery root)<br>Chayote (root)<br>Chicory<br>Chufa<br>Dasheen (taro)<br>Edible burdock<br>Edible canna<br>Garden beet<br>Ginger<br>Ginseng<br>Horseradish<br>Leren<br>Oriental radish (daikon)<br>Parsnip<br>Potato<br>Radish<br>Rutabaga<br>Salsify (oyster plant)<br>Skirret<br>Spanish salsify<br>Sweet potato<br>Tanier (cocoyam)<br>Turmeric<br>Turnip<br>Turnip-rooted chervil<br>Turnip-rooted parsley<br>Yam bean<br>Yam (true) | Cutworm spp.  | 1.3 to 3.8 fl ozs<br>(0.008 to 0.025 lb ai) | Apply as required by scouting. Base timing and frequency of applications on insect populations reaching locally determined economic threshold levels.<br><br>Use sufficient water to ensure thorough coverage of foliage.<br><br><b>Minimum Spray Volume/Acre</b><br>• <b>Aerial</b> - 2 gallons<br>• <b>Ground</b> - 10 gallons |
|   | Cabbage looper<br>Cucumber beetle<br>European corn borer<br>Fleabeetle spp.<br>Leafhopper spp.<br>Southern corn rootworm (adult)<br>Vegetable weevil<br>Whitefringed beetle (adult)   | 1.8 to 3.8 fl ozs<br>(0.012 to 0.025 lb ai) |  |
|   | Aphid spp. <sup>1,2,3</sup><br>Armyworm, beet <sup>1,3</sup><br>Armyworm, yellow-striped<br>Cabbage maggot<br>Colorado potato beetle <sup>1</sup><br>Grasshopper spp.<br>Imported cabbageworm<br>Potato leafhopper<br>Tarnished plant bug | 3.2 to 3.8 fl ozs<br>(0.020 to 0.025 lb ai) |  |

- **Maximum Application Rate/Acre** - 3.8 fl ozs of **Fastac™ CS** insecticide (0.025 lb ai)
- **Maximum Seasonal Application Rate/Acre** - 11.4 fl ozs of **Fastac CS** (0.075 lb ai)
- **Minimum Application Interval** - 4 days
- **PHI** - 1 day
- **DO NOT** use leaves of root and tuber vegetables for food or feed.

<sup>1</sup> See **Resistance** in **Directions For Use** section.

<sup>2</sup> Aphid control may be variable depending on species present and host-plant relationships.

<sup>3</sup> Aids in control

**Table 2. Crop-specific Application Instructions** (continued)

| Crop  | Insects Controlled   | Application Rate/Acre                       | Application Method  |
|---|--|---|---|
| <b>Sorghum (Grain) and Millet</b>   | Cutworm spp.<br>Sorghum midge  | 1.3 to 3.8 fl ozs<br>(0.008 to 0.025 lb ai) | Apply as required by scouting. Base timing and frequency of applications on insect populations reaching locally determined economic thresholds.   |
|   | Armyworm, fall<br>Armyworm, Southern<br>Armyworm, true<br>Armyworm, yellow-striped<br>Corn borer, European <sup>1</sup><br>Corn borer, Southwestern <sup>1</sup><br>Corn earworm<br>Flea beetle spp.<br>Hornworm<br>Stink bug spp.<br>Webworm spp. | 1.8 to 3.8 fl ozs<br>(0.012 to 0.025 lb ai) | Use sufficient water to ensure thorough coverage of foliage.<br><br><b>Minimum Spray Volume/Acre</b><br><ul style="list-style-type: none"> <li>• <b>Aerial</b> - 2 gallons. Addition of 1 quart to 2 quarts of emulsifiable oil/acre to the spray solution may improve spray deposition and insect control.</li> <li>• <b>Ground</b> - 10 gallons. Addition of 1 quart to 2 quarts of emulsifiable oil/acre to the spray solution may improve spray deposition and insect control.</li> </ul> |
|   | Aphid spp. <sup>2,3</sup><br>Armyworm, beet <sup>3</sup><br>Chinch bug<br>False chinch bug<br>Grasshopper spp.<br>Lesser cornstalk borer <sup>1</sup><br>Thrips spp. <sup>3,4</sup><br>Whitefly spp. <sup>3,4</sup>                                | 3.2 to 3.8 fl ozs<br>(0.020 to 0.025 lb ai) | <b>Sorghum midge control:</b><br>Begin applications when 25% of sorghum heads have emerged and are in tip bloom. Repeat applications at 10-day intervals if needed.<br><br><b>Chinch bug control:</b><br>Begin applications when bugs migrate from small grains or grass weeds to small sorghum. Direct spray to the base of plants with sufficient spray volume to penetrate the soil/stem interface, leaf collars, and sheaths.   |
| <ul style="list-style-type: none"> <li>• <b>Maximum Application Rate/Acre</b> - 3.8 fl ozs of <b>Fastac™ CS insecticide</b> (0.025 lb ai)</li> <li>• <b>Maximum Seasonal Application Rate/Acre</b> - 11.4 fl ozs of <b>Fastac CS</b> (0.075 lb ai)</li> <li>• <b>Minimum Application Interval</b> - 10 days</li> <li>• <b>PHI</b> - 14 days (grain and stover)<br/>45 days (forage)</li> </ul> <p><sup>1</sup>For control before the larva bores into the plant stalk<br/> <sup>2</sup>Aphid control may be variable depending on species present and host-plant relationships.<br/> <sup>3</sup>See <b>Resistance</b> in <b>Directions For Use</b> section.<br/> <sup>4</sup>Aids in control</p> |  |   |   |

**Table 2. Crop-specific Application Instructions** (continued)

| Crop  | Insects Controlled   | Application Rate/Acre                       | Application Method  |
|---|--|---|---|
| <b>Soybeans</b>   | Cutworm spp.<br>Painted lady (thistle) caterpillar<br>Saltmarsh caterpillar<br>Silverspotted skipper   | 1.3 to 3.8 fl ozs<br>(0.008 to 0.025 lb ai) | Apply as required by scouting. Base timing and frequency of applications on insect populations reaching locally determined economic thresholds.   |
|   | Alfalfa caterpillar<br>Armyworm, Southern<br>Armyworm, true<br>Armyworm, yellow-striped<br>Bean leaf beetle <sup>1</sup><br>Blister beetle spp.<br>Colorado potato beetle<br>Corn borer, European<br>Corn earworm<br>Corn rootworm beetle (adult)<br>Cowpea curculio<br>Cucumber beetle<br>European corn borer<br>Flea beetle<br>Green cloverworm<br>Hornworm<br>Imported cabbageworm<br>Japanese beetle<br>Leaf skeletonizer spp.<br>Leafhopper spp.<br>Leafminer (adult)<br>Mexican bean beetle<br>Pea leaf weevil<br>Plant bug spp.<br>Potato leafhopper<br>Seedcorn maggot (adult)<br>Soybean aphid<br>Spittlebug<br>Three-cornered alfalfa hopper<br>Tobacco budworm <sup>2</sup><br>Velvetbean caterpillar<br>Webworm spp.<br>Woollybear caterpillar | 2.8 to 3.8 fl ozs<br>(0.018 to 0.025 lb ai) | Use sufficient water to ensure thorough coverage of plant and foliage.<br><br><b>Minimum Spray Volume/Acre</b><br><ul style="list-style-type: none"> <li>• <b>Aerial</b> - 2 gallons. Addition of 1 quart to 2 quarts of emulsifiable oil/acre to the spray solution may improve spray deposition and insect control.</li> <li>• <b>Ground</b> - 10 gallons. Addition of 1 quart to 2 quarts of emulsifiable oil/acre to the spray solution may improve spray deposition and insect control.</li> </ul> |
|   | Armyworm, beet<br>Armyworm, fall<br>Grasshopper spp.<br>Kudzu bug<br>Lesser cornstalk borer <sup>3</sup><br>Looper spp. <sup>2</sup><br>Stink bug spp.<br>Thrips spp. <sup>2,3</sup><br>Whitefly spp. <sup>2,3</sup>   | 3.2 to 3.8 fl ozs<br>(0.020 to 0.025 lb ai) |   |
| <ul style="list-style-type: none"> <li>• <b>Maximum Application Rate/Acre</b> - 3.8 fl ozs of <b>Fastac™ CS insecticide</b> (0.025 lb ai)</li> <li>• <b>Maximum Seasonal Application Rate/Acre</b> - 11.4 fl ozs of <b>Fastac CS</b> (0.075 lb ai)</li> <li>• <b>Minimum Application Interval</b> - 7 days</li> <li>• <b>PHI</b> - 21 days</li> <li>• <b>DO NOT</b> graze or harvest treated soybean forage, straw, or hay for livestock feed.</li> </ul> <p><sup>1</sup> Use higher specified dosage for increased pest pressure, increased residual pest control, or later-season applications.<br/> <sup>2</sup> See <b>Resistance</b> in <b>Directions For Use</b> section.<br/> <sup>3</sup> Aids in control</p> |  |   |   |

**Table 2. Crop-specific Application Instructions** (continued)

| Crop  | Insects Controlled  | Application Rate/Acre                       | Application Method   |
|---|---|---|--|
| <b>Sugar Beets</b>  | Aphids <sup>1</sup><br>Armyworms<br>Cutworm spp.<br>Flea beetle<br>Grasshopper<br>Heliothis spp.<br>Loopers<br>Sugar beet root maggot (adult) | 2.2 to 3.8 fl ozs<br>(0.014 to 0.025 lb ai) | Make applications when insect populations reach economic thresholds. Refer to local Cooperative Extension Pest Management Guidelines and/or scouting results.<br><br>Use sufficient water to ensure thorough coverage of foliage.<br><br><b>Minimum Spray Volume/Acre</b><br>• <b>Aerial</b> - 2 gallons<br>• <b>Ground</b> - 10 gallons |
| <ul style="list-style-type: none"> <li>• <b>Maximum Application Rate/Acre</b> - 3.8 fl ozs of <b>Fastac™ CS insecticide</b> (0.025 lb ai)</li> <li>• <b>Maximum Seasonal Application Rate/Acre</b> - 11.4 fl ozs of <b>Fastac CS</b> (0.075 lb ai)</li> <li>• <b>Minimum Application Interval</b> - 4 days</li> <li>• <b>PHI</b> - 50 days</li> <li>• <b>DO NOT</b> graze or harvest treated sugar beet tops for livestock feed.</li> </ul> <p><sup>1</sup> Aphid control may vary depending on species present and host-plant relationships.</p> |   |   |  |

| Crop  | Insects Controlled  | Application Rate/Acre                       | Application Method   |
|---|---|---|--|
| <b>Tree Nuts</b><br>Almond<br>Beech nut<br>Brazil nut<br>Butternut<br>Cashew<br>Chestnut<br>Chinquapin<br>Filbert (hazelnut)<br>Hickory nut<br>Macadamia nut<br>Pecan<br>Walnut (black, English)  | Black pecan aphid<br>Codling moth<br>Filbert worm<br>Hickory shuckworm<br>Leaffooted bug<br>Navel orangeworm<br>Oblique-banded leafroller<br>Peach twig borer<br>Pecan leaf casebearer<br>Pecan nut casebearer<br>Pecan phylloxera<br>Pecan weevil<br>Plant bug<br>Stink bug<br>Walnut aphid<br>Walnut husk fly<br>Yellow pecan aphid | 3.2 to 3.8 fl ozs<br>(0.020 to 0.025 lb ai) | Apply as required by scouting. Base timing and frequency of applications on insect populations reaching locally determined economic threshold levels.<br><br>Use sufficient water to ensure thorough coverage of foliage.<br><br><b>Minimum Spray Volume/Acre</b><br>• <b>Aerial</b> - 2 gallons<br>• <b>Ground</b> - 10 gallons |
| <ul style="list-style-type: none"> <li>• <b>Maximum Application Rate/Acre</b> - 3.8 fl ozs of <b>Fastac CS</b> (0.025 lb ai)</li> <li>• <b>Maximum Seasonal Application Rate/Acre</b> - 11.4 fl ozs of <b>Fastac CS</b> (0.075 lb ai)</li> <li>• <b>Minimum Application Interval</b> - 7 days</li> <li>• <b>PHI</b> - 7 days</li> </ul> |   |   |  |

**Table 2. Crop-specific Application Instructions** (continued)

| Crop   | Insects Controlled   | Application Rate/Acre                       | Application Method  |
|--|--|---|---|
| <b>Wheat and Triticale</b>   | Cutworm spp.<br>(including army cutworm)<br>Painted lady (thistle)<br>caterpillar  | 1.3 to 3.8 fl ozs<br>(0.008 to 0.025 lb ai) | Apply as required by scouting. Base timing and frequency of applications on insect populations reaching locally determined economic thresholds.   |
|  | Armyworm, Southern<br>Armyworm, true<br>Armyworm, yellow-striped<br>Cereal leaf beetle<br>Flea beetle spp.<br>Pale Western cutworm<br>Plant bug spp.<br>Spittlebug<br>Webworm spp.   | 1.8 to 3.8 fl ozs<br>(0.012 to 0.025 lb ai) | Use sufficient water to ensure thorough coverage of foliage.<br><br><b>Minimum Spray Volume/Acre</b><br>• <b>Aerial</b> - 2 gallons<br>• <b>Ground</b> - 10 gallons                                 |
|  | Aphid spp. <sup>1,2</sup><br>Armyworm, beet <sup>2</sup><br>Armyworm, fall<br>Chinch bug<br>Grass sawfly<br>Grasshopper spp.<br>Greenbug <sup>2,3</sup><br>Leafhopper spp.<br>Stink bug spp.<br>Thrips spp. <sup>2,3</sup><br>Wheat stem sawfly (adult) <sup>3</sup><br>Whitefly spp. <sup>2,3</sup> | 3.2 to 3.8 fl ozs<br>(0.020 to 0.025 lb ai) | <b>Chinch bug control:</b><br>Begin applications when bugs migrate from small grains or grass weeds. Apply sufficient spray volume to penetrate the soil/stem interface, leaf collars, and sheaths. |
| <ul style="list-style-type: none"> <li>• <b>Maximum Application Rate/Acre</b> - 3.8 fl ozs of <b>Fastac™ CS insecticide</b> (0.025 lb ai)</li> <li>• <b>Maximum Seasonal Application Rate/Acre</b> - 11.4 fl ozs of <b>Fastac CS</b> (0.075 lb ai)</li> <li>• <b>Minimum Application Interval</b> - 14 days</li> <li>• <b>PHI</b> - 14 days (grain, forage, and hay)</li> </ul> <p><sup>1</sup> Aphid control may be variable depending on species present and host-plant relationships.<br/> <sup>2</sup> See <b>Resistance</b> in <b>Directions For Use</b> section.<br/> <sup>3</sup> Aids in control</p> |  |   |   |

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BASF Corporation  
26 Davis Drive  
Research Triangle Park, NC 27709



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